An Essay
on
Secale Cornutum or Ergot

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for
the degree of Doctor of Medicine

in the
University of Pennsylvania

By Edson B. Olds

of Ohio

Jan. 10th. 1829.

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An Essay on Secale Cornutum or Ergot.

This article is a parasitic fungus, occupying the glumes of the rye, of the genus sclerotium, and natural order fungi.

The wide spreading reputation of the ergot throughout the medical world, as a partus accelerator, and the diversity of opinion among medical men as to its powers and use, render it an article peculiarly interesting to the medical inquirer; and a very desirable object to establish some fixed rules for its exhibition.

If we range the whole Materia Medica, we shall not perhaps be able to find another article so eminently well calculated to excite our admiration of that wonderful connexion of the various organs of the animal economy, by which an impression upon one part is almost instantly propagated to another, through the medium of sympathy, and is there manifested, often by the most vehement actions.

To me the ergot appears to exert its action specifically upon the uterine fibres, promptly exciting them to more or less vehement contractions. It not

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only excites the alternate contractions, but it possesses the power of very effectually promoting the tonic contraction of the uterus, which, every accoucheur will at once acknowledge is a very important and desirable object.

This article, as a partus accelerator, stands alone or preeminent; and is capable by its prompt and certain operations of affording the most happy results in the hands of a cautious and judicious practitioner.

In cases of feeble, inefficient or irregular uterine contractions, the ergot administered judiciously, seldom fails of promptly exciting vigorous and efficient contractions; and may indeed, in my estimation, in the most of cases, be considered a complete substitute for either forceps or version.

In forming our estimation of the value of this article, it will be necessary for us to determine with precision, when the uterus is acting under its influence; and when under the natural efforts of labour. And in this, an experienced and attentive observer, will find but little perplexity. For when the uterus

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is excited to action by the influence which the ergot possesses over the contractility of its fibres; its contractions are far more powerful, and repeated at shorter intervals; the womans sufferings are more supportable during her pains, although if interrogated, she will tell you, her pains are much stronger and far more bearing down; at the same time she will declare her situation more comfortable; and in a majority of cases, there will be more or less uneasiness during the intervals of the uterine contractions.

The uterine contractions, when excited by the influence of the ergot, are generally surprisingly vehement; it is therefore, self evident, that this medicine cannot be given indiscriminately, or without due regard to circumstances. Should it be given, before the os uteri is dilated or in a dilatable condition, rupture of the uterus might be the consequence. But on the contrary, if the os uteris be dilated, and the soft parts yielding, it may be administered with the most perfect safety, and the greatest certainty of success.

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An Essay on Secale Cornutum or Ergot.

It has been supposed by some Physicians, and among those may be numbered men of talents and science, that the ergot exerts a deleterious influence on the fœtus; not unfrequently destroying its life. But from considerable experience with this medicine in my own practice; and from the testimony of others who have used it extensively, I am convinced in my own mind, that when administered with due regard to the rules hereinafter mentioned, this objection will prove entirely unfounded. And I believe, at the present day, that such is the opinion of every one, who is at all conversant with the use of this medicine.

It is not unknown to me, that some few Physicians deny that this article exerts any influence whatever on the uterine contractions. Their opinion may, I think, be very satisfactorily accounted for, by supposing, (which undoubtedly must have been the fact,) that they used ergot of a bad quality, or which had become effete, from long keeping, or from being long pulverized. In selecting this article, we should be particular to select such grains as are smooth and plump; for those grains which

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have a shriveled appearance are almost inert; and if examined when fresh, the inside will be found of a darker colour than the sound, smooth and plump grains; and also much softer, and of a rotten and unhealthy appearance.

In treating of this medicine, I shall first state the circumstances which forbid its employment; and then give the rules, under which it may be administered with safety and manifest advantage.

1st. It should never be given in cases in which it will be necessary to turn, or change the position or presentation of the child.

2d. It should not be given before the os uteri is dilated or in a dilatable condition, and the soft parts yielding.

3d. It should not be given as long as the natural pains are efficient, and competent to effect delivery.

It must be evident to the most superficial observer, that these rules cannot be transgressed with impunity. The exhibition of the ergot under these precise conditions of the uterine system, has most undoubtedly destroyed the life of many a child, and subjected the mother to

much suffering, and the practitioner to great embarrassment.

Rules for administering the scale cornutum.

1st. In the earlier stages of utero-gestation, when abortion becomes inevitable, and the uterine contractions are feeble and attended with more or less hæmorrhage.

Having satisfied ourselves that the progress of utero-gestation can advance no further, that abortion has now become unavoidable, it will be very desirable that this object should be accomplished and as soon as possible, without increasing our patient's sufferings or danger. Under such circumstances frequently the woman's sufferings are extremely great: can scarcely sit a minute and intermittent uterine contractions, which in some cases may even continue for several days; her importunities for relief are urgent in the extreme. Under such circumstances, the exhibition of the scale cornutum will very speedily produce an abortion; and consequently, not only abridge our patient's sufferings, but greatly lessen her danger by putting a stop to the hæmorrhage.

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Case on Vesicle Obstruction & Expt.

Case. April 5th 1847 I was requested to visit Mrs. V. aged forty, between three and four months advanced in utero-gestation. She had only once before been pregnant, and then, when she was about eighteen years of age, was then delivered of a sound and healthy child. About twenty years since she was married, and has not since been pregnant until the present time. I found her labouring under suppression of the urine, the bladder being painfully distended, and having produced a protrusion of the uterus, with all the concomitant symptoms. Having drawn off her urine with the catheter, and ordered an injection to be thrown up the rectum, which dislodged the indurated fæces contained in that bowel, I now determined, if possible, to restore the uterus to its natural position immediately as each bearing down effort was sinking in fundus uteri lower in the cavity of the sacrum, and thereby increasing the difficulty by delay. For the better effecting of this purpose, I ordered the patient to be placed on her

back with her legs elevated; my right hand being well lubricated, I passed it into the vagina in a state of supination; and placing my fingers on the fundus or base of the tumour, and by making moderate, but steady and long continued pressure, so as to elevate the tumour in the direction of the sacrum, I succeeded in restoring the uterus to its natural position, and in keeping it in situ by the aid of the pessary. Rest, and the antiphlogistic regimen were strictly enjoined; and in usual medicines to assist uterine contractions were administered, great care being taken to prevent the distention of the bladder, by continuing to use the catheter. But all our exertions to prevent abortion were ineffectual; and at the expiration of eight and forty hours, her pains still continuing very severe and irregular, haemorrhage began to be profuse, and the woman became much exhausted. On examination per vaginam, the os uteri was found so much dilated as to preclude the possibility of any further advancement of the process of utero-gestation. And under these

circumstances, I determined to produce an abortion as quickly as possible; and to effect this object, I had recourse to the ergot, giving the patient twenty grains in substance, and in fifteen minutes, ten grains more; and in about forty minutes from the time the first dose of the ergot was given, the ovum and secundines were expelled, the hæmorrhage ceased, and the patient had immediate relief from all her sufferings.—

Case Dx. Mrs. Owen, was in the habit of having miscarriages very suddenly induced, without any evident cause; and without any of the premonitory symptoms; and always during the hours of sleep, being awakened by the violence of the uterine contraction; and by the effort of a single bearing down pain, the ovum would be expelled; but the secundines were retained, the uterus remained relaxed, and very profuse and alarming hæmorrhage was the consequence. This woman was very lusty and of a full habit; and her flooding was always profuse in the extreme.

I was on three times called to her aid of this

woman after a miscarriage induced as before stated: I have seen her found in a state of syncope, pulse not perceptible — extremities cold — lips colourless — and now and then sighing and moaning heavily — and almost literally floating in a pool of blood. To relieve this patient, I have found nothing more necessary, than cold applications to the vulva — warmth to the extremities — brisk friction upon the abdomen immediately over the uterus — and above all, the immediate exhibition of a full dose of the secale cornutum, which acts so promptly in exciting the uterine contractions — at the same time promoting the tonic contraction, flooding considerable coagulating, and the patient experiencing immediate relief from all her sufferings.

d. In cases of profuse and alarming hæmorrhage in the more advanced stages of uterine gestation, attended with weak and insufficient uterine contractions, and not occasioned by the attachment of the placenta over the os uteri.

Under these circumstances, having ordered rest, in a recumbent posture, an mild purgative, ordered a strict adherence to the antiphlogistic regimen — and stayed the hemorrhage by the use of the tampon, untill the os uteri becomes dilated or easily dilatable: before which period we shall seldom have occasion for further measures, or may calculate with certainty on the prompt and efficient action of ergot in relaxing our patients.

Case. On the 16th of Nov. 1836 I was requested to visit Mrs. V. the wife of Esq. V. in consultation with a young medical friend. This lady was very large, and of a full habit, aged thirty five — the mother of seven children, and according to her calculation, advanced in pregnancy to about a completion of the seventh month, and has had occasionally for a best part of five months uterine hemorrhage, but not any rigors or alarming untoward symptoms in the last week and forty hours.

This lady was confined to a recumbent posture on a hair mattress — bleeding has been resorted

all implored — has had her bowels in a soluble condition for a few days past, and slight purgative has been put upon the antiphlogistic regimen, with cold applications to the uterine region.

On examination per vaginam, the presentation was found to be natural — the os uteri considerable dilated, but rather rigid; the placenta could not be felt. Considering the os uteri in a situation to forbid the present use of the ergot — or immediate manual delivery, I introduced the tampon, and as her pulse was tolerable full, we took thirty ounces of blood. The pains still continuing, but very reduced both in frequency and force; in about an hour I examined her again, found the os uteri dilated and yielding, and the soft parts relaxed; and as time was to be lost, for fear of returning to the same or shaggy and as the natural pains appeared incompetent to effect delivery, I gave the patient twenty grains of ergot in substance, in twenty minutes, her pains became more and forcing, and in a short

tion delivery was accomplished — the tonic contraction of the uterus secured, and no hæmorrhage or other bad symptom followed.

3d. In cases of syncope or uterine convulsions, in which speedy delivery becomes necessary.

4. In cases of syncope. Sometimes syncope will regularly follow labour pains — disposing the os uteri to dilate and the soft parts to relax; and when not followed by exhaustion — sinking of the pulse — diminution of the uterine contractions and coldness of the extremities and surface generally; we shall have no occasion to interfere with the natural progress of labour. But when syncope is followed by increased exhaustion — more rapid succession of syncope becomes of longer duration — when the labour pains become weak and less frequent — and when there is much sinking of the pulse, with coldness of the surface generally, immediate delivery is our best remedy. And now, provided the os uteri is sufficiently dilated, (in which it almost always will be, when the

of mentioned symptoms are present; the ergot will be found far preferable to either manual or instrumental assistance, with or without remedies employed under such circumstances.

Case. Mrs. F. aged twenty five — in labour with her third child — had frequent twinges fits — became much exhausted — her labour pains became weak and irregular — and her midwife much alarmed. I was now requested to visit the woman, and found her as above described, no evident cause could be assigned for the syncope. On examination per vaginam, the presentation was ascertained to be natural — the os uteri dilated and the soft parts yielding. I gave the patient twenty grains of the secale cornutum in substance, and in twenty minutes, the first dose not having produced the desired effect, I gave ten grains more of the medicine, and in a few minutes, her pains became strong, forcing and frequent; the syncope ceased as her pains became stronger, and in a short time she was safely delivered, and had a rapid recovery.

When concealed or internal hæmorrhage is the cause of this complaint, syncope is less alarming at first, exhaustion is less rapidly induced, but there will be an augmentation of both in proportion to the profuseness of the internal hæmorrhage. The abdomen also, will be found to increase in size; and if a little external hæmorrhage will be perceptible; and at length the woman becomes very much exhausted, and the uterine contractions feeble.

Under these circumstances, the ergot will not be found a less valuable medicine than in former cases of syncope, speedily exciting the uterus to contraction, speedily accomplishing delivery, and expelling the coagula of blood, and effectually preventing further hæmorrhage by promoting the tonic contraction of the uterus.

Case. Mrs. E. aged 28, in labour with her first child, had pains, became gradually exhausted — and I was sent for in great haste to visit her. I found her much exhausted, uterus quite relaxed and in as very much distended. In manipulation, the uterus and

soft parts were in a suitable condition for administering the ergot; and as her pains were feeble, I ordered twenty grains to be given in substance. In half an hour the pains became strong and bearing down, & ergot ceased as soon as the pains became strong; delivery was soon completed & in an hour & a quarter after, there was within an inch of coagulated blood. The patients recovery was as speedy as usual.

IV. In puerperal convulsions, in which speedy delivery becomes necessary.

Under this head I can say but little from my own experience, having never attended but one case of puerperal convulsions; which convulsions were of the epileptic variety. This woman had had sixteen convulsions before I saw her — I found her insensible — breathing attended with that peculiar sibilation, sound & vice & characterizes this variety of puerperal convulsions. On examination per vaginam, the os uteri was found dilated about the size of a fifty cent piece, but rigid and unyielding. As this woman was of full habit, and

the pulse full and voluminous; I determined on pro-
curing relief accordingly I passed a large orifice, and
took twelve ounces of blood; after the next convulsion,
again took twelve ounces and after the succeeding con-
vulsion twelve ounces more making in all nine teen ounces.
On examination again the os uteri was not more dila-
ted than before, but quite soft and yielding: I now
determined on administering the ergot, but found
that she had lost all power of deglutition. I therefore
ordered to dilate the os uteri, which was accomplished with
the almost facility, introducing my hand, turned the
child and delivered by the feet.

During the time my hand was in the uterus,
she had one convulsion — but there was not the
least contraction of the uterus, it appeared to be
in a perfectly quiescent.

Although in this case, the delivery was conduct-
ed with the utmost caution and gentleness and we
slowly, acting in imitation of the natural labour
instead after the delivery of the child, there was

no disposition of the uterus to contract. This condition of the uterus was attended with profuse and alarming hæmorrhage. I attempted to excite uterine contractions by brisk friction upon the abdomen, immediately over the uterus — cold applications externally applied; and by injecting cold water into the vagina and uterus; but all to no effect; the uterus still remained in the same condition, and the hæmorrhage continued unabated. The idea now occurred to me, that probably the ergot might have the same effect administered by injection, as when given in the usual way. Accordingly, I ordered six grains to be given by injection in starch water, and in about twenty minutes, uterine contractions came on, the placenta was soon expelled; hæmorrhage ceased; and the tonic contraction secured. Mrs. L. had no more convulsions after the ergot; recovered her senses in a few hours, and had a tolerable good getting up.

This being the only case, in which I ever made use of the ergot by injection; I am not prepared to say

ral its action will always be thus prompt, when administered in this manner; but if upon further trial it shall be found to be the fact, it will certainly be of much practical utility — as it may be administered in this way in many cases, in which, the irritability of the stomach will be such as to forbid its use in the usual manner.

Also, in protracted cases of labour, the os uteri being dilated and the soft parts relaxed and the uterine contractions being weak, irregular and incompetent to effect delivery,

Under these circumstances the small commutum judiciously administered, will prove, I believe, decidedly the most sensible & relative agent, prompt, efficacious and safe.

Case. Jan. 5th. 1842 I was called to the assistance of Mrs. R. aged twenty five the mother of five children — she had been four full days in labour and had been attended by a midwife. Mrs R. was much exhausted, had not urinated for six and twelve

hours, and was very costive. On examination, her vagina, her presentation was found to be natural, her os uteri dilated, and the soft parts yielding, but the uterine contractions were feeble, and quite inadequate to accomplish delivery.

I drew off the urine with a catheter; ordered her an injection, which, having operated, I gave her twenty grains of ergot in substance, and in twenty minutes, the former dose not having manifested its specific operation, I gave her twenty grains more; and in a few minutes her pains became strong and bearing down, without a complete intermission of pain; then appeared to be one continued effort of the uterus to expel its contents; and in a short time, her child was born; the placenta soon came away, and her woman had a more speedy recovery.

Case. April 9th 1827. I was requested to visit Mrs. A. in consultation with Dr. [illegible] Mrs. A. was said to have children, both of whom were delivered with the forceps, in consequence of deficient uterine contractions.

The Physician who now attended but not being acquainted with the medical virtues of the ergot, and having no forceps, sent for me, with strict injunction for me to bring my forceps; supposing there could be no other remedy, as the woman was much exhausted; having been eight and forty hours in labour. The pains were weak and ineffective; the presentation was a second presentation according to the system of Dr Dewees, the os uteri dilated and the external parts yielding. Under these circumstances, I suggested to the attending Physician, that before employing the forceps, we would try the effect of this ergot; and after much persuasion and argument, I gained his approbation: accordingly, I gave the patient twenty grains in substance, her pains soon became strong and forcing and in less than half of an hour from the time she took the ergot, delivery was accomplished; to the utter astonishment of the Doctor and the great delight of the infant and its friends.

5th. Retention of the placenta, from deficiency in the alternate or tonic contraction of the uterine fibres.

Ergot again the scale cornutum acts with surprising certainty and promptitude, yet effects expulsion of the placenta with infinitely more ease and safety to the patient, than could be expected from its delivery by the hand. The only caution necessary, being to ascertain, that this retention is not produced by what is denominated the "hour glass contraction."

In cases too in which there exists a firm adhesion of the placenta to the parietes of the uterus; the ergot by its powerful clonic contractions which it produces, will, according to my experience, effect the separation and expulsion of the placenta.

Case. Mrs. W. was delivered on the morning of the 18th of Jan. 1845 of a son, by an ignorant and officious old midwife; but all her endeavours to deliver the placenta were ineffectual; and after wearing herself and fatiguing the woman for twelve hours, she broke the umbilical chord, at the place

ta, and very slyly burying it in the fire, she exclaimed, "I have got my girl born at last, thank God!" and immediately fell out for home. Mrs. F. still becoming more and more exhausted, and feeling very uncomfortable during the night, and having much more flooding than usual, became alarmed, and I was requested to visit her on the succeeding morning after the birth of the child. I found her much exhausted from the long continued, though not alarmingly profuse haemorrhage. Suspecting from the history of the case that the placenta still remained in utero, and as the external parts were much swollen and tender from recent bruising, I conceived it would be better to try the effects of the secale cornutum, before making use of mechanical means. Accordingly I administered twenty grains in substance, and in twenty minutes ten grains more of the medicine was given, and in forty minutes from the time she took the first dose of the ergot, uterine contractions came on, and very soon the placenta was expelled, and the uterus became firmly

contractor. Mrs T. had a very lingering and tedious recovery.

I have administered the ergot in all the cases of uterine phrenitis which have occurred in my practice, in which the usual remedies have failed, requiring one case, which was occasioned by an hour, by its contracting the uterus, and it has never disappointed me of accomplishing the desired effect.

Ob. In cases of hæmorrhage after delivery, from laxity and deficiency of uterine contraction.

Here again with the almost certainty, we may place the most unbounded confidence in the powers of the ergot. All hæmorrhages may with certainty be prevented by administering the ergot fifteen or twenty minutes previous to the time, we may reasonably expect delivery to be accomplished. Given in this manner its specific action on the uterus, will begin to manifest itself, about the time labour is terminated — immediately it effects the tonic contraction of the uterus, and effectually the mouths of the bleeding vessels will be closed,

[illegible] Cornutum or Ergot.

and the hæmorrhage will be effectually prevented.

Case. Mrs. H. is the mother of eight children; has always had remarkably quick labours; the placenta coming away with the child; but after each delivery, she has suffered much from uterine hæmorrhage, in consequence of the uterus remaining in a relaxed condition. I attended her in her last three labours, and being made acquainted with the fact of her always suffering from hæmorrhage after delivery, I determined on administering the ergot as above stated; and each time it had the desired effect, securing the tonic contraction of the uterus, and effectually preventing the possibility of hæmorrhage.

Obs. When there is an excess of size in the diameters of the pelvis, which will be followed by too rapid a delivery, giving rise to a profuse and alarming hæmorrhage in consequence of the sudden emptying of the uterus.

To the invaluable systems of Midwifery by Dr. Evans we are indebted for our knowledge of the employment of ergot in the above mentioned complaint.

In the aforementioned condition of the pelvic cavity, there will also be great danger of the uterus escaping with its contents from the os externum, if the labour be not managed with much caution and judgment; but as this cannot be prevented by the use of the ergot; it does not come within the scope of this Essay.

To prevent hæmorrhage in these cases, besides the usual means, such as friction cold applications &c. we should administer a full dose of ergot immediately after the delivery of the child; for the purpose of effecting the tonic contraction of the uterus, which will most effectually prevent hæmorrhage.

Case. Mrs. S. was taken in labour July 2nd 1[illegible]. I and my attendant was immediately required, living only a few doors distant, I was soon by her bed side. The labour was rapidly advancing and on making an examination per vaginam I found the head of the child presenting at the os externum completely enveloped by the cervix uteri, and the vagina not much dilated, but quite soft and yielding. As

[illegible] labour [illegible]
the pains were strong and bearing down, and the head
succeeded to the [illegible] and almost began
to distend the perineum. I directed the woman to sus-
pend all her voluntary efforts; and with the fingers of
my right hand pressing firmly against the head of
the child, and supporting the perineum with my left
hand: I counteracted in some degree the expulsive force
of the uterine contractions: I only giving way a little
time to time: and in this manner I prevented much
os from escaping from the os externum. But immediat-
ly after the delivery of the child, haemorrhage became pro-
fuse in the relaxing; brisk friction was instituted upon
the abdomen immediately over the uterus, and the pa-
tient swallowed twenty grains of ergot in substance,
and in a short time the pains were established, the
placenta expelled, and the haemorrhage ceased.

I attended this woman in her two succeeding
labours, and exactly the same symptoms obtained,
and were relieved in the same way.

Ob. When the head of the child has been left in the uterus, by being separated from the body.

Having never witnessed a case of this kind, I can say nothing from my own experience; but reasoning from the known powers of this medicine, and and practice, I feel almost a disinclination to rely on its authority. Dr. Dewees and others, who speak as of its safety and utility; I should not for a moment hesitate to employ the ergot in such a case, if an occasion should offer, and circumstances require it.

The uterus is painfully distended by coagula.

The ergot would be used in a sine qua non, action and is almost impossible in expelling the coagula, and exciting the tonic contraction of the uterus.

The following case was communicated to me, by my much lamented friend, the late Dr. Benjamin Glas. He was called to see a woman, who had been delivered by a midwife some hours before — he found the woman much exhausted, with occasional syncope; the abdomen much distended and painful on pressure;

she had no external hæmorrhage, but upon examination per vaginam, the uterus was found distended with coagulated blood — he administered a large dose of ergot, which soon excited the uterus to contraction, expelled an immense quantity of coagula, and the woman had immediate relief.

10th. Professor Dewees has suggested that the ergot may prove useful in cases of prolypsi in the uterus; where it shall become desirable to expel these substances, beyond the cervix uteri, for the purpose of excision or applying the ligature. He has also suggested that it may very probably be useful in expelling hydatides from the cavity of the uterus.

This last suggestion of Professor Dewees has since been proved to be correct, by a Dr. Macgill of Pennsylvania, who has actually expelled hydatides by the use of the secale cornutum.

Thus, Illustrious Professors, have I endeavored to point out and illustrate some of the many virtues

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of this invaluable medicine in as short and concise a manner as possible — And I trust the day is not far distant, when this article, in a medical poin of view, shall occupy as conspicuous a station in our Materia Medica, as Calomel, Opium or the Peruvian Bark. Prompt in its action, powerful in its operation, and important in its application; it is admirably well calculated to divest that momentous period in the life of the female sex, of half its terrors, half its suffering and half its victims

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